

Lake Bradford Lake Vegetation Index Results

(8-24-2016)

The Lake Vegetation Index (LVI) is a multi-metric index that evaluates how closely a lake's plant community resembles one that would be expected in a condition of minimal human disturbance. It is based on a rapid field assessment of aquatic and wetland plants as indicators of various effects of human disturbance over time. Plants respond to physical disturbances such as introduction

of exotic species or lakeshore alterations, and chemical disturbance such as introduction of excess nutrients, particulates, or herbicides from the surrounding land uses.

The LVI method is performed from a boat, and involves dividing a lake into 12 units and identifying plants in 4 of the 12 units (Figure 1). Plants are identified in the selected unit by a visual boat "drive by" and also via a transect approach. The resulting data is used to calculate the LVI and is evaluated according to the scoring system in Table 1.

TABLE 1. Category names, ranges of values for LVI, and example descriptions of biological conditions typically found for that category.

<i>Aquatic life use category</i>	<i>LVI Range</i>	<i>Description</i>
Exceptional	78–100	Nearly every plant present is a species native to Florida, invasive taxa typically not found. About 30% of taxa present are identified as sensitive to disturbance.
Healthy	43–77	About 85% of plant taxa are native to Florida; invasive taxa present. Sensitive taxa have declined to about 15%.
Impaired	0–42	About 70% of plant taxa are native to Florida. Invasive taxa may represent up to 1/3 of total taxa. Less than 10% of the taxa are sensitive.

The Lake Vegetation Index score for Lake Bradford was 58, placing the lake's vegetative community in the healthy category.

Forty seven plant species were found during the survey. The native species, pond cypress (*Taxodium ascendens*) was the most dominant species. Other species include red maple (*Acer rubrum*), maidencane (*Panicum hemitomon*) and coastal plain willow (*Salix caroliniana*).

Torpedo grass (*Panicum repens*) and coral ardisia (*Ardisia crenata*) both listed as Category I Invasive Exotics by the Florida Exotic Pest Control Council <http://www.fleppc.org/> and are a concern in

Lake Bradford. Alligator weed (*Alternanthera philoxeroides*), and Chinese wisteria (*Wisteria sinensis*) were two Category II Invasive Exotics found in the lake. Additionally, the exotic water spangles (*Salvinia minima*), and burhead sedge (*Oxycaryum cubense*) were also found in the littoral zone and floating tussocks of the lake.

For a complete list of plants found during the LVI survey, please see Table 2.

TABLE 2. Scientific and common names of the plants identified during the Lake Bradford LVI survey (8-24-15). Names in bold are plants nonnative to Florida.

Scientific Name	Common Name
<i>Acer rubrum</i>	red maple
<i>Alternanthera philoxeroides(II)</i>	alligator weed
<i>Ampelopsis arborea</i>	peppervine
<i>Ardisia crenata (I)</i>	coral ardisia
<i>Bacopa caroliniana</i>	lemon bacopa
<i>Bidens laevis</i>	smooth beggartick
<i>Bidens mitis</i>	smallfruit beggartick
<i>Boehmeria cylindrica</i>	false nettle
<i>Boltonia diffusa</i>	smallhead doll's daisy
<i>Campsis radicans</i>	trumpet vine
<i>Cephalanthus occidentalis</i>	buttonbush
<i>Cyperus lecontei</i>	Leconte's flatsedge
<i>Cyperus odoratus</i>	fragrant flatsedge
<i>Cyrilla racemiflora</i>	swamp titi
<i>Diospyros virginiana</i>	common persimmon
<i>Eupatorium capillifolium</i>	dogfennel
<i>Hydrocotyle</i> sp.	water pennywort
<i>Hygrophila costata</i>	Gulf swampweed
<i>Hygrophila polysperma</i>	dwarf hygrophila
<i>Hypericum myrtifolium</i>	myrtle-leaved St. Johns wort
<i>Ilex cassine</i>	dahoon holly
<i>Lachnanthes caroliniana</i>	redroot
<i>Leersia hexandra</i>	southern cutgrass
<i>Liquidambar styraciflua</i>	American sweetgum
<i>Ludwigia arcuata</i>	needleleaf ludwigia
<i>Lycopus rubellus</i>	taperleaf water horehound
<i>Lygodium japonicum</i>	Japanese climbing fern

Scientific Name	Common Name
<i>Magnolia grandiflora</i>	southern magnolia
<i>Najas guadalupensis</i>	southern waternymph
<i>Nyssa sylvatica</i> var. <i>biflora</i>	swamp tupelo
<i>Oxycaryum cubense</i>	burhead sedge
<i>Panicum hemitomon</i>	maidencane
<i>Panicum repens(I)</i>	torpedo grass
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Pinus taeda</i>	loblolly pine
<i>Polygonum punctatum</i>	dotted smartweed
<i>Quercus virginiana</i>	southern live oak
<i>Rhexia mariana</i>	maryland meadowbeauty
<i>Rhus copallinum</i>	American pokeweed
<i>Salix carolina</i>	coastal plain willow
<i>Salvinia minima</i>	water spangles
<i>Serenoa repens</i>	saw palmetto
<i>Smilax</i> sp.	greenbrier
<i>Taxodium ascendens</i>	pond cypress
<i>Vallisneria americana</i>	eelgrass
<i>Vitis rotundifolia</i>	muscadine
<i>Wisteria sinensis (II)</i>	Chinese wisteria

Names in bold are exotic species.

I - Category I Invasive Exotics

II - Category II Invasive Exotics

For additional information about the LVI please go to the Florida Department of Environmental Protection webpage;

http://www.dep.state.fl.us/water/sas/training/docs/lvi_primer.pdf. For additional information about exotic Category I and II invasive exotic plants, please go to the Florida Exotic Pest Plant Council

<http://www.fleppc.org/list/list.htm>.

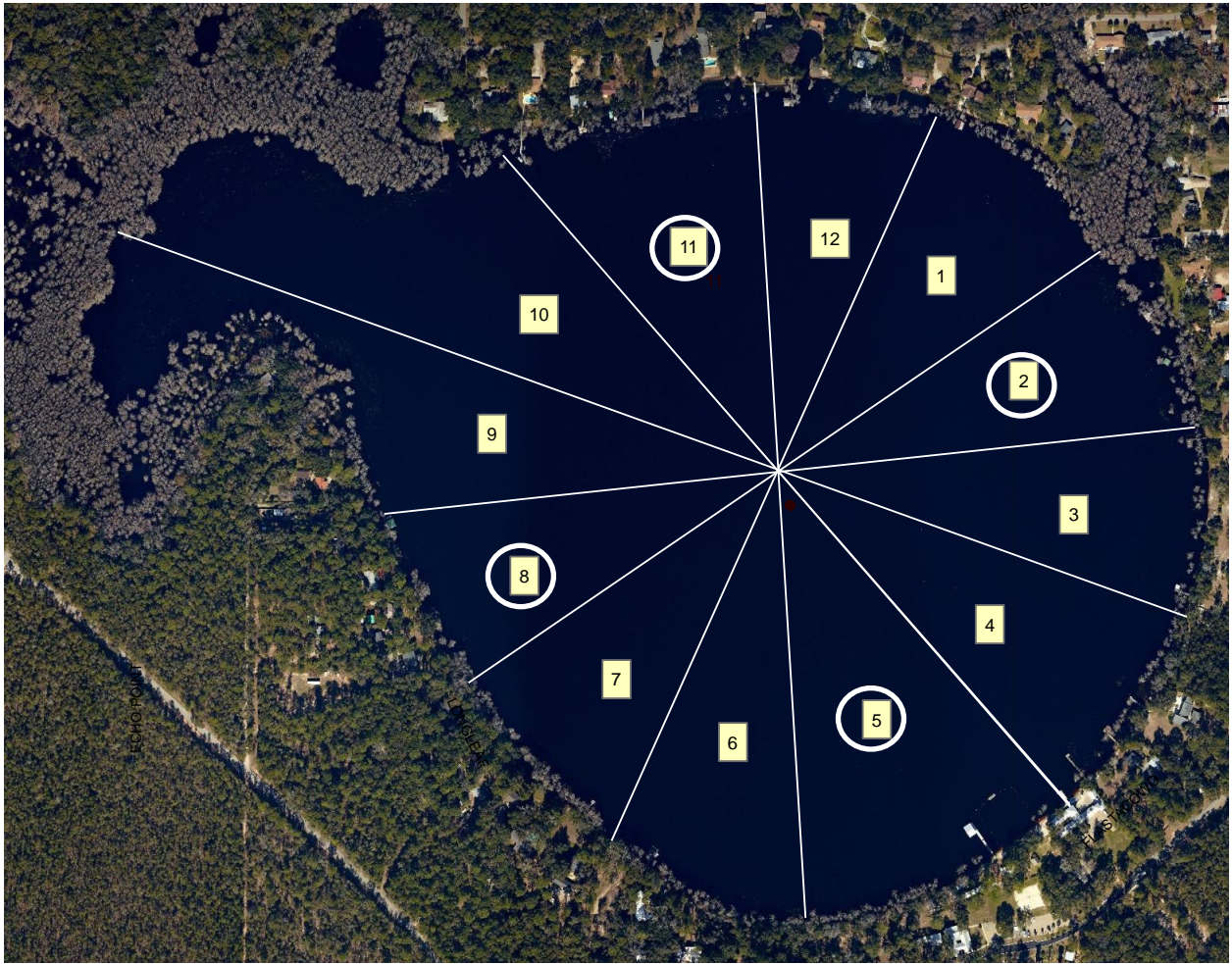


FIGURE 1. Lake Bradford showing unit divisions. Circled unit numbers denote surveyed units.